

# Lake George Gem & Mineral Club

## Club News

April, 2019



**NOTE: LGGM Club meetings in April through October will start at 9:00 a.m.**

### **LGGM Membership Applications and Renewals:**

Only LGGM Club members may attend club field trips. However, both members and non-member guests are all welcome to attend the programs at club meetings.

**Membership applications are accepted only until March 31<sup>st</sup> each year, so membership is closed for this year.** All members should have received a membership card for each person including family members. These cards can be used to check out books from the library in the Pikes Peak Historical Society Museum (just south of the intersection of Highway 24 and Teller County 1 in Florissant), for discount to Western Museum of Mining and Industry (north of Colorado Springs) admission and to verify that you are club members for field trips and the LGGM Club claim. If you haven't received your card, please email [Treasurer@lggmc.org](mailto:Treasurer@lggmc.org).

**Program for the Month: Saturday, April 13, 2019, 9:00 a.m.**

### **Pikes Peak Area Rockhounding: the geology, the minerals, the equipment and the technique**

Vice President **John Rakowski** will present rockhounding basics for our area and a good review of how to recognize the formations, the minerals, and how to extract them. This may be a repeat for many club members but this is an excellent introduction for new folks in the hobby or new to collecting in this area.

### **Scheduled Programs at Club Meetings:**

**Robert Baker** has been working to organize programs for 2019. Thus far, we have the following speakers/programs scheduled:

**May - Markus Raschke**, aluminofluorides in the Pikes Peak area

**June - Conrad North**, Fluorescent minerals (field-trip prep)

**July - Bob Carnein**, Basic geology of the Colorado Springs/Ute Pass area (field-trip prep)

**August - Steven Veatch**, Pebble Pup Presentation

**September - Steve Gorman**, history of the Gold City Claim

**October - Richard Walker**, Meteorite find near Cotopaxi. Use of metal detectors

**November - Doug White**, Newmont CC&V geology of Cripple Creek gold mine

**December** - Towel show, no presentation

**Silent Auction:** We need donations for the silent auction at our club meetings! If you have "extras", whether minerals, fossils, books, or other items, and if you have a label saying what the item is and where it came from, we can use it. If not, bring some cash and be prepared to help support Club activities, including scholarships, Pebble Pups, and other items.

## LGGM Club Field Trips:

The field trip schedule is taking shape for the 2019 season! Many people have volunteered to make this \*active\* field trip schedule possible. Thank you. However, we still need more volunteers. For Saturday May 18<sup>th</sup>, we need a couple of volunteers to lead the trip to our Club Claims. This is a great opportunity to lead a trip, even if you have not done so before, because we'll have experienced leaders available to help. If this trip doesn't get leader volunteers, we'll cancel the trip.

As trips get closer, we'll be publishing them on our field trip website at <https://lggmclubfieldtrips.com/>. See that website for more details and to sign up for a field trip.

### Requirements to participate in club field trips:

- 1) You **MUST** be a club member. (Membership is closed as of March 31, 2019.)
- 2) You **MUST** register on the website for the trip; if you are not registered unfortunately you cannot join us.
- 3) If you are registered, but cannot make a trip, please take your name off of the registration to make room for others. Many of the trips have a maximum number of people and/or vehicles that can participate.
- 4) You **MUST** also meet at the designated location at the time listed on the website. **We will be leaving promptly at that time**, so plan to show up at least 15 minutes early! Due to agreements we've made with the claim owners, we need to caravan from the meeting point to the collecting sites together. (Contact your field trip leader if you have any questions.)
- 5) You will need to follow normal rockhounding etiquette, including, but not limited to, respecting property/claim boundaries, complying with all requests from property/mine owners, removing all of your trash, and filling your holes before you leave unless property/mine owner requests otherwise.

We are still looking for people willing to be a trip leader or assistant. Being a field trip leader or assistant is simple and rewarding. Please contact your field trips coordinators Dave Alexander ([dave@davealex.com](mailto:dave@davealex.com)) or Laura Canini ([caninilaura@gmail.com](mailto:caninilaura@gmail.com)), or any club leader to volunteer, or to get more information about how easy it is to participate. Look forward to collecting with you this year!

--dave

SCHEDULE OF LGGM CLUB PROGRAMS, FIELD TRIPS & EVENTS			
Date(s)	What	Where	Leader/Notes
Sa 4/13	Club Program - Rockhounding	LGGMC Presentation	John Rakowski
Sa 4/13	Quartz, amazonite, fluorite, etc.	Wigwam Club Claim	John R (backup Sun 4/14)
W 4/24	Garnets	Arroyo Gulch	Linda Watson
Su 4/28	Reclamation	Wigwam Club Claim	Dave Alexander
W 5/1	Zeolites	N Table Mountain-Golden	Dave A (5 lb/person limit)
Sa 5/4	Blue Barite	Harvey Claim - Hartsel	Linda W
Sa 5/11	Aluminofluorides	LGGMC Presentation	Marcus Raschke
Sa 5/18	Quartz, amazonite, fluorite etc.	Wigwam Club Claim	<b>Needs new Trip Leader or will be cancelled</b>
W 5/22	Jaspers	Trout Creek Pass & Mushroom Gulch	Linda W
Sa 6/1	Geology & History of Phantom Canyon Road	Phantom Canyon Rd.	Paul Combs
Sa 6/8	Fluorescent Minerals	LGGMC Presentation	Conrad North
Sa 6/15	Fluorescent Minerals	Gold City Claim	Bob Baker/Steve Gorman Evening/Night Trip at full moon
Sa/Su 6/22 - 6/23	Epidote, quartz Garnets	Calumet & Sedalia Mines	Dave A & Richard Kawamoto Joint Trip with RAMS
Sa 6/26	Quartz, amazonite, fluorite	Wigwam Club Claim	
Sa 7/13	Geology of Ute Pass	LGGM Club Presentation	Bob Carnein

Sa 7/27	Magnetite, fluorite	Badger Flats	Linda W
Sa 7/31	Blue Barite	Harvey Claim - Hartsel	Linda W
Sa 8/10	Pebble Pup Presentation	LGGM Club Presentation	Steven Veatch
<b>F 8/16 – Su8/18</b>	<b>LGGM CLUB ANNUAL GEM &amp; MINERAL SHOW</b>	<b>Lake George (between Post Office - Starkeys)</b>	<b>See lggmclub.org for more details</b>
Sa 9/14	History of Gold City Claim	LGGM Club Presentation	Steve Gorman
W 10/2	Fossils	Hwy 115 Pierre Shale	
Sa 10/5	Colorado Springs Area Geology Day #1	GOG, Manitou Spr, Cave of the Winds, Crystola	Bob Carnein
Su 10/6	Colorado Springs Area Geology Day #2	Ute Pass (Woodland Park to Rainbow Falls)	Bob Carnein
Sa 10/12	Meteorite near Cotopaxi	LGGM Club Presentation	Richard Walker
Sa 11/9	Newmont CC&V Geology of Cripple Creek-Victor Goldmine	LGGM Club Presentation	Doug White
<b>Additional Presentations and Field Trips to be added after they are confirmed.</b>			

### Other Upcoming LGGM Club Events:

- **(TBD): Mineral Physical Properties by Bob Carnein**  
Club member Bob Carnein will repeat his popular class covering the basic properties used to identify your mineral finds. This is a 3-hour class, usually done on a Saturday with a break for lunch. If you would like to sign up, please contact Bob at [ccarnein@gmail.com](mailto:ccarnein@gmail.com), no later than April 10. If there is enough interest, we will arrange a time that works for all. Minimum enrollment is 10, and the class is suitable for kids 10 and older, accompanied by an adult.
- **(TBD in fall 2019): Basic Wire Wrapping by Jerrolynn Kawamoto. Darlene Cotton** will be assisting in the course.

### ADDITIONAL COMING EVENTS OUTSIDE THE LGGM CLUB: (Nearby gem, mineral, fossil and geology events that you may enjoy.)

- **Cañon City Geology Club**, meets on the 2<sup>nd</sup> Monday of the month at 6PM in the United Methodist Church, Cañon City
- **Columbine Gem & Mineral Society**, meets on the 2<sup>nd</sup> Thursday of each month, 6:30PM in the meeting room, Mt. Shavano Manor, 525 W. 16<sup>th</sup> (at J St.), Salida
- **Colorado Springs Mineralogical Society**, meets on the 3<sup>rd</sup> Thursday of each month at 7PM in the Mt. Carmel Veteran's Service Center, 530 Communication Circle, Colorado Springs;
- **Pueblo Rockhounds**, meets on the 3<sup>rd</sup> Thursday of each month at 6:30PM in the Westminster Presbyterian Church, 10 University Circle, Pueblo.

### **Pete Modreski suggests the following upcoming events:**

**Mon., Apr. 1, 11:30 a.m.-1 p.m.**, at the weekly meeting of the Denver Mining Club, "**Mining History of Jefferson County, Colorado**", by Pete Modreski, USGS. At the Golden Corral Buffet, 3677 S. Santa Fe Dr., Sheridan (west side of Santa Fe Dr., south of Hampden). Purchase of lunch is required.

**Mon., Apr. 1, 7:00 p.m.**, **The Leadville Limestone-The Magic Rock of Central Colorado**, by Ed Raines, Collections Manager, Colorado School of Mines Geology Museum; at the Western Interior Paleontological Society meeting, Lowry Conference Center 1061 Akron Way, Denver.

**Tues., Apr. 2**, 10:30 a.m., USGS Rocky Mountain Science Seminar, “**Dynamics of mud volcanoes and geysers**”, by Max Rudolph, Univ. of California-Davis. Building 25 auditorium, Denver Federal Center; visitors are welcome. Enter Building 25 at entrance E-14, by the security guard’s station.

**Apr. 2-11**, geologist Lew Kleinhans is leading a 9-Day Grand Canyon Geology float trip from April 2-11, which has between 5 and 10 spaces remaining. This is scheduled at a time few get to float the river and generally is more attractive to the more adventurous adventurers, owing to variable temperatures (generally between 55 and 85); i.e., great hiking, fishing, sleeping, and occasional swimming weather and lots of wildflowers. For more info, please contact Lew, [lewis.oysterclub@gmail.com](mailto:lewis.oysterclub@gmail.com) , or write to me ([pmodreski@gmail.com](mailto:pmodreski@gmail.com) ) and I'll forward you a flier about the trip.

**Wed., Apr. 3**, 3:00 p.m., Denver Museum of Nature & Science, Earth Sciences Colloquium, “**The evolution of plant-mite mutualisms: Clues from the DMNS collections**”, by Gussie MacCracken, Univ. of Maryland. VIP Room, DMNS; all are welcome, museum admission is not required.

**Wed., Apr. 3**, 7:00 p.m., Friends of the CSM Geology Museum monthly lecture will be “**Outstanding Minerals of Colorado’s Metallic Ore Deposits: A Brief Review**”, by Philip Persson. In the CSM Geology Museum, room 201, 1310 Maple St., Golden, CO. Socializing begins at 6:30 p.m. and the talk will start at 7:00 p.m. Admission is free and all are welcome. James Piper sent us this notice about this event:

Friends of the Colorado School of Mines Geology Museum Organized 2009

at the Top Ten Mineralities on Earth

Phil Persson

**“Outstanding Minerals of Colorado’s Metallic Ore Deposits: A Brief Review”**

By Phil Persson

Wednesday, April 3, 2019, 7:00 p.m. to 9:00 p.m.  
Colorado School of Mines Geology Museum  
Conference Room 201

Rhodochrosite, Sweet Home Mine, Alma, Colorado (CSM Geology Museum)

Gold, Breckenridge District, Colorado (CSM Geology Museum)

**Fri., Apr. 5**, 3:00 p.m., Denver Museum of Nature & Science, Earth Sciences Colloquium, “**Exceptional fossils in carbonate concretions: Why they form and what they can tell us**”, by Tory McCoy, Univ. of Leicester. VIP Room, DMNS; all are welcome, museum admission is not required.

**Tues., Apr. 9**, 6:30 p.m., Golden Beer Talks, **Christina Burri, Watershed Scientist, Denver Water**, will discuss Denver Water's proactive investments in forest and watershed health to protect the source water for 1.4 million people in the Denver Metro Area. She will share the lessons learned in being reactive to high intensity wildfires, such as the Hayman and Buffalo Creek fires, and how Denver Water is experiencing a return-on-investment on proactive forest and watershed management". Windy Saddle Café, 1110 Washington St., Golden. Doors open at 6; no charge other than food or drink you may purchase. For more info see <http://goldenbeertalks.org/> .

**Fri., Apr. 12**, 6:45 p.m., **North Jeffco Gem & Mineral Club Silent Auction**; all welcome (setup begins at 5:30). APEX Community Recreation Center, 6842 Wadsworth Blvd., Arvada. For more info, Bill Jones, 303-503-6288

**Fri.-Sat.-Sun., Apr. 12-14, Colorado Mineral and Fossil Spring Show**, Crown Plaza Hotel /Convention Center, 15500 E 40th Ave., Denver, Colorado, 10-6 Fri. & Sat., 10-5 Sun., free parking & admission.

**Thurs., Apr. 18**, Colorado Scientific Society annual dinner meeting, at Mount Vernon Canyon Club, 24933 Clubhouse Circle, Golden [Lookout Mountain] with a presentation, "**Kilauea's 2018 eruption - new methods and perspectives for monitoring volcanic eruptions**", by Jeff Sloan and Don Becker, USGS. You may attend the dinner, or just come afterward for the presentations. Social gathering at 5:30, dinner at 6:00, program at 7:00. To make reservations see [www.coloscisoc.org](http://www.coloscisoc.org) .

**Mon. & Tues., Apr. 22 & 23**, a pair of short **Geology/Nature Hikes for Earth Day** (which of course is always April 22), on the **Table Mountains, Golden**. Monday, Apr. 22, a hike to the **waterfall on the east side of North Table Mountain**; meet at 5:00 p.m. at Tony Grampas Park, Salvia St. off W. 44<sup>th</sup> Ave., Golden. Tuesday, Apr. 23, a hike to the top of "**Castle Rock**" on **South Table Mountain**; meet at the trailhead at 18<sup>th</sup> St. & Belvedere St., Golden (take 19<sup>th</sup> St. east till it dead-ends at the foot of the mountain; jog left on Belvedere, park between 19<sup>th</sup> & 18<sup>th</sup> Streets. Let by USGS geologist Pete Modreski. Open to the public—anyone who would like to come. Each hike should take 2 hours or less, up & back; return by dusk. For more info or if weather is questionable, contact [pmodreski@usgs.gov](mailto:pmodreski@usgs.gov), off. 303-202-4766, cell 720-205-2553.

**April 25-28, Dinosaur Ridge, 30<sup>th</sup> Anniversary Celebration**: events, Thursday through Saturday, include Jurassic Park Movie Night at the Alamo Drafthouse; Walk with a Scientist Tours; Spotlight on Science talk at the Origin Hotel Red Rocks; Community Carnival in the Cretaceous; and 30<sup>th</sup> Anniversary Gala Event at Origin Hotel. For full information on all these events, see <http://dinoridge.org/tours-programs/30th-anniversary-celebration/> .

**Sat., May 5**, 11 a.m. to 2:45 p.m., **Colorado Mineral Society Silent Auction**; Holy Shepherd Lutheran Church, 920 Kipling St., Lakewood. Checkout begins at 2:45 p.m.; all are welcome; for more info, see [www.coloradomineralsociety.org](http://www.coloradomineralsociety.org) or contact Ben Geller, 303-550-5993 or email [auction.coloradomineralsociety@gmail.com](mailto:auction.coloradomineralsociety@gmail.com) .

**Thurs., May 9**, 7:30 p.m., Friends of Mineralogy, Colorado Chapter, bimonthly meeting: featuring Ryan Bowling, **The Pala Gem Pegmatite District, San Diego County, California**. Meeting in Berthoud Hall, Room 109, Colorado School of Mines campus, Golden. All are welcome.

**Tues., May 14**, Colorado Scientific Society annual Emmons Lecture, by **Dr. Mark Barton, Univ. of Arizona, Lowell Institute for Mineral Resources**, topic and location TBA. This public presentation will take place in conjunction with a 2.5-day USGS-CSM-CGS joint Mineral Resources Forum.

**Sun., May 19, Friends of Mineralogy, Colorado Chapter, Silent (+Vocal) Auction**. Noon to 4 p.m., Clements Community Center, 1580 Yarrow St., Lakewood CO. All are welcome to attend.

**Fri.-Sat.-Sun., May 31-June 2, Pikes Peak Gem & Mineral Show**, Norris-Penrose Event Center, 1045 Lower Gold Camp Road, Colorado Springs, CO 80905. Sponsored by the Colorado Springs Mineralogical Society. Hours: noon-7 pm Fri., 10-5 Sat, 10-4 Sun. Adult admission \$5.

\* \* \* \* \*

*For more lecture series during the year see:*

**Colorado Beer Talks** (2<sup>nd</sup> Tuesday, 6-8 p.m.), Windy Saddle Café, 1110 Washington Avenue, Golden, “Golden’s grassroots version of TED talks, Expand your mind with a beer in your hand”, <http://goldenbeertalks.org/>

**Colorado Café Scientifique in Denver**, monthly lectures on science topics held either at Blake Street Station or Brooklyn’s, Denver; open to the public, no charge other than refreshments you may choose to purchase; see <http://cafescicolorado.org/> .

**Colorado Scientific Society** (3<sup>rd</sup> Thursday, 7 p.m.), see <http://coloscisoc.org/> . Meets at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood CO, except when noted.

**CU Geological Science Colloquium** (Wednesdays, 4 p.m.)

see <http://www.colorado.edu/geologicalsciences/colloquium>

**CSU Dept. of Geoscience Seminars** (Fridays, 4 p.m.),

see <https://warnercnr.colostate.edu/geosciences/geosciences-seminar-series/>

**Van Tuyl Lecture Series, Colorado School of Mines**, (Thursdays, 4 p.m.): <https://geology.mines.edu/events-calendar/lectures/>

**Denver Mining Club** (Mondays, 11:30), see <http://www.denverminingclub.org/> .

**Denver Museum of Nature and Science, Earth Science Colloquium series**, 3:00-4:00 p.m., VIP Room unless noted, day of the week varies. Museum admission is not required;

see <http://www.dmns.org/science/research/earth-sciences/>

**Denver Region Exploration Geologists Society** (DREGS; 1<sup>st</sup> Monday, 7 p.m.), <http://www.dregs.org/index.html>

**Florissant Scientific Society** (FSS); meets monthly in various Front Range locations for a lecture or field trip; meeting locations vary, normally on Sundays at noon; all interested persons are welcome to attend the meetings and trips; see <http://www.fss-co.org/> for details and schedules.

**Nerd Night Denver** is a theater-style evening featuring usually 3 short (20-minute) TED-style talks on science or related topics; held more-or-less monthly at the Oriental Theater, 4335 W. 44<sup>th</sup> Ave., Denver; drinks are available; for ages 18+. Admission is \$6 online in advance, \$10 at the door. See <https://www.nerdnitedenver.com/> .

**Rocky Mountain Map Society** (RMMS; Denver Public Library, Gates Room, 3<sup>rd</sup> Tuesday, 5:30 p.m.), <http://rmmaps.org/>

**Western Interior Paleontological Society** (WIPS); beginning January 2019, WIPS will meet on the 1<sup>st</sup> Monday of the month, 7 p.m., at Lowry Conference Center, 1061 Akron Way, Denver. See <http://westernpaleo.org/> .

## **LGGM Club News:**

### **March Program Presentation**

In March, **Paul Combs** presented a fascinating program on the wide variety of information that has been learned by detailed studies of dinosaur tracks. Not only do the size of the foot and stride length give us an indication of the animal’s size, but they also give indications of behavior patterns like family and group travels, similarities in the anatomy of these animals to modern ones, and even new evidence showing that some dinosaurs could (and did) swim.

### **Clarification of Social Media Statements about Rich Fretterd**

At the March meeting of the LGGM Club, there was discussion about inaccurate information that had been posted on the club Facebook page about Richard Fretterd, who is a former member of the club. In November, 2018, Rich pleaded guilty to three counts of sex assault on a child. Prior to the sentencing, the judge heard statements from the three young ladies involved, from several members of their families, and from three individuals who are members of the LGGM Club. These club members were speaking only of their own experience with Rich, not as representatives of the club, and they testified that in all of their interactions with Rich, and in all interactions they had witnessed between Rich and other people, he had acted appropriately and ethically. Several additional club members were also present to observe the court proceedings. After all statements had been made, the judge sentenced Rich to 4 years to life in prison.

Afterward, inaccurate rumors have spread in the community and on Facebook, claiming that Richard Fretterd is a lifetime member of the Lake George Gem & Mineral Club, and that the club and its members who were at Rich’s sentencing support pedophilia. It was suggested on the club Facebook

page by several persons that all club members who attended Rich's sentencing hearing should be expelled from the club. In addition, these club members were informed that threats of violence against them had been posted online.

The truth is that neither the Lake George Gem & Mineral Club nor the club members who were at the court for Rich's sentencing accept or support pedophilia or any other unlawful activity. Nor does anyone have a lifetime membership to the club. In fact, Rich Fretterd has not been a club member on our roster since 2016.

During the March meeting of the LGGM Club, John Rakowski and Jerrolynn Kawamoto spoke about this issue, and Jerrolynn requested a vote by all members present at the meeting about whether they would like to expel the members who attended Rich Fretterd's sentencing. The members present voted unanimously not to recommend expulsion of club members for their choice to attend the court proceedings.

**Wayne Orlowski** sent us these links to an article and video that may be a good follow-up to Paul's talk:

#### ARTICLE

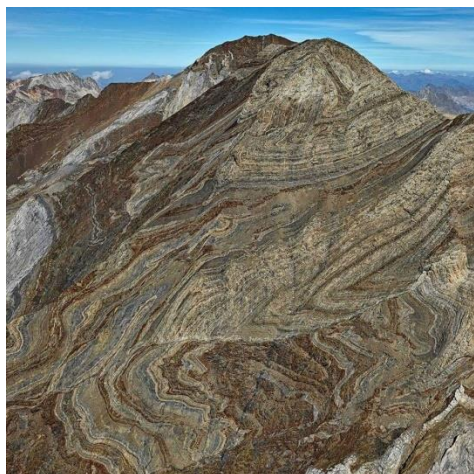
[https://www.nationalgeographic.com/science/2019/03/would-dinosaurs-have-died-off-without-asteroid-fossils-paleontology/?utm\\_source=Nature+Briefing&utm\\_campaign=95497fbb34-briefing-dy-20190307&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-95497fbb34-4329192](https://www.nationalgeographic.com/science/2019/03/would-dinosaurs-have-died-off-without-asteroid-fossils-paleontology/?utm_source=Nature+Briefing&utm_campaign=95497fbb34-briefing-dy-20190307&utm_medium=email&utm_term=0_c9dfd39373-95497fbb34-4329192)

#### VIDEO ONLY

<https://video.nationalgeographic.com/video/101-videos/00000164-27f1-d726-a5fd-3fff994b0000>

He also sent a link to an interesting article about an unusual fossil site, and a "very nice video on jelly fish you need to watch": [https://www.nationalgeographic.com/science/2019/03/treasure-trove-of-spectacular-fossils-found-in-china/?utm\\_medium=10today.ad3li.20190323.421.2&utm\\_source=email&utm\\_content=article&utm\\_campaign=10-for-today---4.0-styling](https://www.nationalgeographic.com/science/2019/03/treasure-trove-of-spectacular-fossils-found-in-china/?utm_medium=10today.ad3li.20190323.421.2&utm_source=email&utm_content=article&utm_campaign=10-for-today---4.0-styling)

In addition, **Wayne** sent us this photo of a strikingly unusual geologic formation:



Lardana is a prominent, 3375 m high mountain in the Spanish Pyrenees near the border to France. These rocks were folded and squeezed first 310 million years ago, during the variscan orogeny, and then again in the Cenozoic during the collision between Africa and Eurasia that uplifted the area. Today they constitute the second highest mountain in the Pyrenees.

...and one more interesting link from **Wayne**:

Tony Robinson reveals astonishing new evidence that shows how, 8000 years ago, a huge tsunami swamped the east coast of Britain. <https://www.youtube.com/watch?v=3EPNZWBk7i8>

## **Pebble Pup News:**

April is National Poetry Month, and some of the Pebble Pups from the Colorado Springs Mineralogical Society (CSMS) and Lake George Gem & Mineral Club (LGGM Club) have written poems related to their rock and mineral hobbies. This one about rockhounding in the Teller/Park County area was written by Ben Elick, a CSMS poet.

### **Only Me and the Mountain**

By Ben Elick

I see the rough boulders, weathered, rugged, heavy and imposing.  
I touch the quartz in my hand, aged dirt falling at the rub of my thumb.  
I smell heat on the rocks, baked in the sun, far above the tree line.  
I hear only me and the mountain, a sense of freedom, solitude.  
I taste the dirt as it flings up in my face while digging.

I see the true sparkle of an uncut gem, the way nature made it.  
I touch the cold dirt, a reminder that the prospecting season is ending.  
I smell my pack, tattered and dusty, ready to see another prospecting adventure.  
I hear my whisper to the mountain, asking for a safe and prosperous day.  
I taste the fresh water from a mountain stream, clean and cold.

I see respect for the never-ending clash between the mountain and weather.  
I touch gemstones, unearthed with hard work, sweat and willpower.  
I smell the success and the failure of those before me, coated in hope and aspiration.  
I hear my heart beat, sped up by the thrill of experiencing the mountain.  
I taste success through the power of dogged determination.



Location referred to in this poem



Poet Ben Elick



Here is the latest installment of

**“Bench Tips” by Brad Smith:** ([www.BradSmithJewelry.com](http://www.BradSmithJewelry.com))

### **BURNISHING BEZELS**

A dapping ball can sometimes be used to burnish a bezel. I noticed this when setting some 10 mm cabs on a piece of filigree. It was difficult to get enough pressure with a pusher or a regular burnisher, so I tried a dapping ball and found it much easier. Make sure the ball is well polished (hit it with the Zam wheel) and let it ride along the base of your piece. Select a ball big enough so its curvature hits the top of the bezel at the best angle to burnish it down onto the stone.



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### **SUPER PICKLE**

We've all made the mistake of putting some steel in the pickle pot. This can cause all your pieces to be coated with copper. Easiest way I've found to clean it off is to fill half a coffee cup with new hot pickle and put in an ounce or two of hydrogen peroxide from the drug store. Throw your pieces in and the coating is gone in about 10 minutes. When finished, pour the solution back into your pickle pot.

Many people think that when some steel gets into the pickle, the solution is contaminated and should be thrown away. Not true as long as you can remove all the steel from the pickle. In fact, the pickle should work even better after the steel is removed. Pickle works by dissolving the copper oxides that form during soldering. Pickle gets "old" when it cannot hold any more dissolved copper. Putting steel in the pot forces some of the copper to come out of solution, meaning the pickle is then able to dissolve more copper.

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Be More Productive With Brad's "How To" Books  
[www.Amazon.com/author/bradfordsmith](http://www.Amazon.com/author/bradfordsmith)

Happy hammering,  
- Brad

## Notes from the Editors

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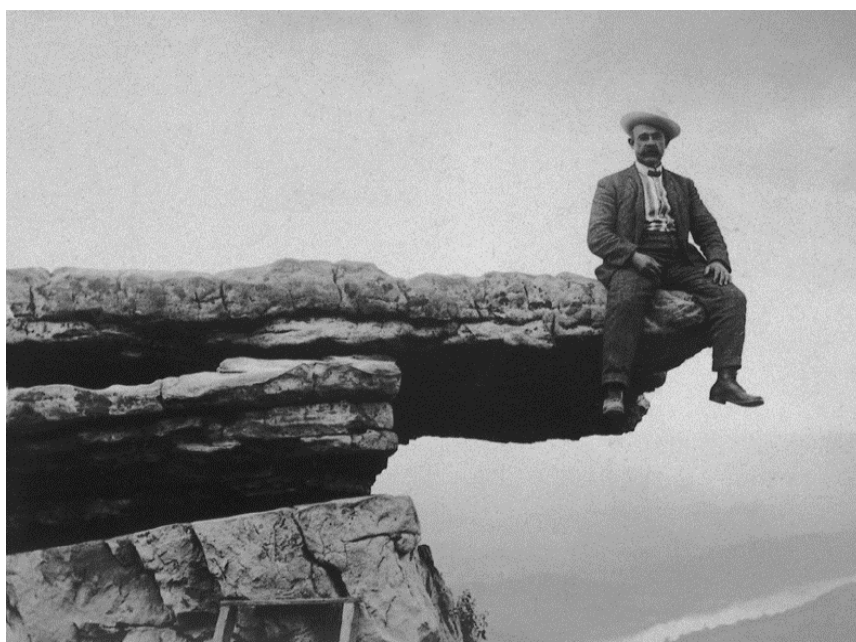
719-687-2739

Jerrolynn Kawamoto,

Co-Editor

[jerrolynn@wildblue.net](mailto:jerrolynn@wildblue.net)

719-748-8152



This month, we feature two excellent contributions from Club members. First, Steve Veatch wrote a fascinating review of a historic letter related to Cripple Creek mining. We think you will find the conclusion especially interesting. Second, Paul Combs, an expert on both birds and their ancestors, the dinosaurs, fills us in on a topic you may not have thought about: fossil eggs. Many thanks to both authors for giving us the chance to publish their work.

### **To Stop a Thief: A Letter Warning Cripple Creek's Winfield Scott Stratton**

By Steven Wade Veatch

It began with a letter that Augustus Dominick Bourquin, a Colorado prospector, wrote to warn Winfield Scott Stratton, the Cripple Creek mining mogul and owner of the Independence Mine, about one of his employees at the mine.

Bourquin's letter is an exceptional illustration of a primary source that offers a first-hand eyewitness account of events. It helps us take a front-row seat to the unfolding of history. Bourquin's letter is among Stratton's historic papers that are stored at the Western Museum of Mining and Industry in Colorado Springs, Colorado.

In his letter, Bourquin warns Stratton that one of his employees, John Stark, is a thief. According to Bourquin's letter, John Stark was an unscrupulous man who committed acts of larceny wherever he went. Stark even raided the caches of clothes and supplies miners left covered with rocks along the trail on their way to

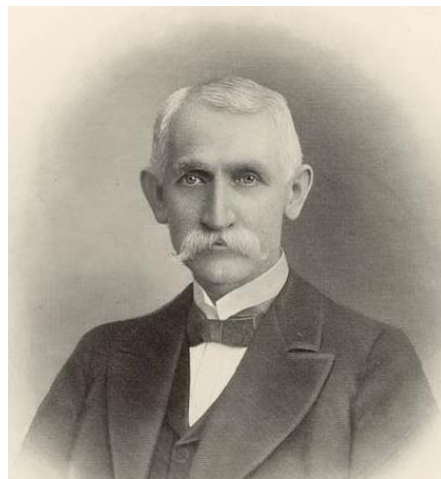


Figure 1. W. S. Stratton (1848-1902) came to the Cripple Creek Mining District in 1891 when he was 42 years old and staked the Independence Mining claim on July 4, 1891. The Independence was among the major producing mines in the district and made Stratton a multi-millionaire. This image is in the public domain in the United States.

the Klondike goldfields, depriving those miners of necessary supplies. Bourquin's letter also mentions the problem of high-grading or theft of gold in the Cripple Creek mining district. Here is his letter:

*Aspen, Colo. Oct. 17th, '98.*

*W. S. Stratton  
Victor, Colo.*

*Dear Sir—*

*I feel that it is my duty to give you a little of the history of a man who is now in your employ [sic]. A man who has proven himself a thief on every occasion where he has had an opportunity to pilfer from others. That man is no other than John Stark. Mr. Stratton, I returned in Aug. from the Klondike and was a partner during the winter with Stark. There was [sic] four of us in partnership on a lay, or lease, on Bonanza Creek.<sup>1</sup> Stark began pilfering aboard the steamship Cleveland on his way north from Seattle.<sup>2</sup> Stole his winter supplies from one of the Mercantile Co's at Fort Yukon.<sup>3</sup> He robbed [sic] one of our partners of every dollar of gold dust he had, on the pretense, that he, Stark, would take it down and deposite [sic] it with his own in Dawson.<sup>4</sup> Stark skipped the country between two days and carried off all the dust, leaving our partner stranded in Dawson where he is today.*

*Stark robbed [sic] caches of clothing and provisions whenever he had an opportunity, against my protest. He stole clothing and provisions from the cache of some poor fellows who had to walk out of the country during the winter on account of a shortage of food. Stark robbed [sic] me of nearly \$200 of which I cannot recover as the theft was committed [sic] in Canadian Territory [sic].<sup>5</sup> The Mercantile Co. who he robbed in Fort Yukon were [sic] on his track in Dawson, when he, under an assumed name, left Dawson between two days in a small boat, about June 1st.*

*Stark often spoke of his work on the Independence mine. Said he has some rich ore from the mine; one piece worth eighty dollars. Spoke of your keeping detectives around all the time but they were not sharp enough to catch anyone. Said he had cut a rich streak of mineral fifteen inches thick and timbered it in, with the help of the Super, hoping someday to get a lease on the ground. According to his statement the superintendent stood in with him, but his name I have forgotten. This unscrupulous scoundrel spoke very disrespectful [sic] of you at different times. Said you had nicely furnished rooms in Cripple for no other purpose, that he knew of, but to take lewd women and have a good time. Mr. Stratton, I have given you simply an outline of the methods practiced by that scoundrel, that you may not be deceived by him. I regret to hear that he has secured a trusty position on your property when there are more worthy people to be had. I can make an affidavit to these [sic] statements should you desire.*

*Very respectfully,*

*A.D. Bourquin*

Although it is clear from the letter that Bourquin had a negative attitude toward Stark based on his alleged dealings with him, perhaps we can judge the veracity of his claims by studying Bourquin's life story. Augustus Dominic Bourquin was born in 1852 in Tidioute, Pennsylvania. Known as "Gust" to his friends, this free-spirited young man craved adventure and excitement.

In 1875, Bourquin first moved west and worked a placer mine in Arizona. Later, he worked in the mines at Red Bluff, California and Reno, Nevada. Bourquin returned home in the fall of 1877 and worked on the family farm in Pennsylvania (Bourquin, 1951). Next, he traveled to Kansas in 1879, where he homesteaded (Bourquin, 1951). Bourquin moved to Kansas at a bad time—a drought held Kansas in its dry and dusty grip. The *Manhattan Nationalist*, on April 25, 1879, had this to say: "The wind made the bleeding soil of Kansas sift through a pine board on Monday [April 21]. The poor housekeeper that had just shaken carpets and cleaned windows, sighed mournfully as they [sic] saw the sand heaps on windowpane and floor" (Malin, 2018). This relentless drought ended his days of homesteading, and in the spring of 1880, Bourquin, along with his two brothers George and Jess, traveled west as they drove a team of mules and a wagon to Denver (Clark, 2018). The brothers then sold the mules and Bourquin trekked to Aspen, Colorado. He operated several mining claims in the area and served as councilman for the City of Aspen (Clark, 2018).

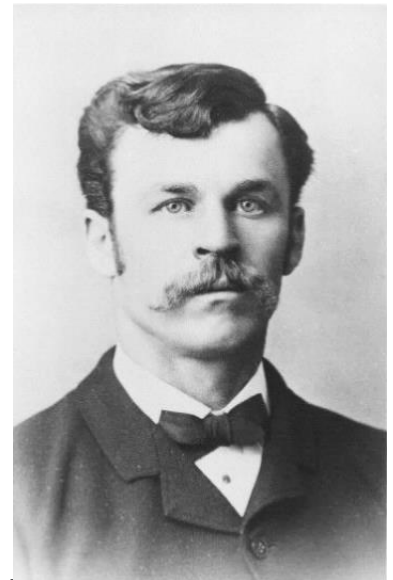


Figure 2. Photo of A.D. Bourquin (1852 to 1899). His father was Swiss and his mother was French. Bourquin was noted in the Aspen newspapers as being a principal in the Austin Mining Excavating Company. Photo source: Robert Clark (great-grandson). Used with permission.

Bourquin caught a bad case of gold fever and joined the Klondike Gold Rush. After spending a season in the Klondike washing gold-laden gravels in Bonanza Creek, he returned to Aspen, Colorado.

Bourquin died a few months after he mailed his letter to Stratton. He had caught the flu while working on a mining claim and died five days later, on Jan 14, 1899, at the age of 46 (Clark, 2018). The Woodmen of the World, a fraternal benefit society designed to provide insurance and financial security for its members, buried him in the Aspen Grove Cemetery in Aspen, Colorado. Bourquin's family then moved his body to the Red Butte cemetery after it opened in 1900. His mother Celestine is buried in the same plot, along with his brother Amos, Amos's wife, and their daughter.

And so, a letter reveals a first-hand account of an episode in the writer's life. The letter led to research that painted a portrait of the writer, A.D. Bourquin, who spent a life well-lived as a miner and adventurer. He followed the trails that pointed to gold and silver deposits, no matter

how difficult the passage. All regarded him as fine man and a pioneer who guided his family to the West.

Although we will never know if Stratton answered Bourquin's letter, it is known that John Stark, after his adventures in the Klondike, returned to the Cripple Creek Mining District and worked as Stratton's foreman at the Independence Mine. Eighteen months later, Stark was promoted to superintendent of the Independence Mine (The Fortunes of a Decade, 1900). It seems that Stratton did not read Bourquin's letter or believe what it said about his foreman, and as a result, we may never know the facts that surrounded Stratton's decision to ignore the warning in Bourquin's letter.

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#### Notes on the letter

<sup>1</sup> On August 16, 1896, prospectors discovered gold on Bonanza Creek, a tributary of the Klondike River in Canada's Yukon Territory. The watercourse became the center of the Klondike Gold Rush (1897-1898). This discovery triggered a stampede of thousands of prospectors and fortune seekers to the area (What Was the Klondike Gold Rush?, 2018).

<sup>2</sup> The *Cleveland*, operated by the North American Trading & Transportation Company, was one of many steamships that carried passengers to and from the Klondike goldfields (Woodin & Spude, 2016). The company sold fares only to the "hardiest of men." The demand for a ticket was high. After leaving Seattle's docks, the *Cleveland* went as far as Fort St. Michael, where a connection was made with river steamers that took passengers and goods up the Yukon River to the mines. Fort St. Michael was established by the US Army in 1897 to establish order during the Klondike Gold Rush and served as a major gateway through the Yukon River to the area. In 1903, the *Cleveland* was lost in the Bering Sea and was never recovered (Andrews, 1916).

<sup>3</sup> Fort Yukon, during the Klondike Gold Rush ("Starvation Winter" of 1897-1898) took in 200 prospectors from Dawson City who were short of supplies (McLaughlin, 2018).

<sup>4</sup> Dawson City, the center of the Klondike Gold Rush, began in 1896, where it displaced a native encampment. The city grew into a busy place of 40,000 by 1898. A year later, after the gold rush ended, its population plummeting to 8,000 people.

<sup>5</sup> The stolen \$200 is equivalent to \$2,855 in 2018 dollars.

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## **DINOSAUR EGGS: NOT SO DELICATE OR SCARCE** by Paul Combs

You might suppose that eggs are nearly impossible to preserve as fossils, and you would be right, as far as early paleontologists were concerned. They thought that it just stood to reason that something as delicate and ephemeral as an eggshell would have almost no chance for preservation. They were wrong. Fossil eggs, or eggshell fragments, are not as uncommon as you might think.

The “how” is always everyone’s first consideration when it comes to fossil eggshells. The answer lies in at least three factors that promote eggshell preservation. **FIRST:** Almost all egg-laying animals lay several eggs per clutch, and some lay two or more clutches per year throughout their lifetimes. That means a lot of eggs in a lot of places. That compares very favorably to a skeleton, for instance, which dies only once and in one place. (Some of the bones may be scattered by predators or scavengers.) Paleontologists find a lot of bones, so there should be a lot of eggshells lying around, too. **SECOND:** Eggshells are almost pure calcium carbonate, the mineral that has comprises more fossils than any other, including corals, mollusks, articulate brachiopods, bryozoans, many diatoms, tube worms and more. **THIRD:** Paleontologists like to remind us that the most important step in fossilization is the first one: burial. Most living reptiles and some birds bury their eggs, and it is obvious that many extinct reptiles did, too. This burial gives an egg a higher chance of preservation than a skeleton, which might never be buried, unless by accident in a flood or sandstorm.

You might not expect it, but paleontologists classify eggshells and fragments as ichnofossils, or “trace fossils”. This is different from a “body fossil” (bones, teeth, leaves, etc.), and it puts eggshells in the same category with other **indirect evidence of life**, alongside footprints, coprolites (fossil poop), tunnels, burrows, swimming marks, bite marks, etc. Fossil eggs are common enough so that a complex classification scheme has been developed to sort out various types.

But there is a “catch”. If a fossil egg contains the skeleton of an embryo, then it is classified among the body fossils. In the early 2000s, Chinese paleontologists discovered a complete fossil of a small bird with an egg preserved in her lower abdomen. The bird is a body fossil, but the egg is an ichnofossil because it contains no detectable embryo. Confused yet? There is more about that discovery at the end of this article. Look for the double asterisk \* \*

Let’s examine some of what paleontologists are discovering about dinosaur eggs. I won’t attempt to create a structure for this article because of the enormous amount of available data. Instead, here are several paragraphs on different topics in order to provide as much information as possible in the smallest space.

**OLDEST DINOSAUR EGGS TELL A LOT:** The oldest dinosaur eggs yet discovered are from a genus named *Massospondylus*, which lived about 190 million years ago in what is

today southern Africa. Each egg is about 15 cm (6 in) long, and the eggs contain the oldest dinosaur embryos ever discovered. About 10 more sets of *Massospondylus* eggs have been discovered in the same area since the original 1976 find, with up to 34 eggs per set. This indicates repeated use of the site, which is a good indicator of a behavior called *site fidelity*. (Some birds also exhibit site fidelity, returning from migration to nest at exactly the same branch.)

**MORE EMBRYOS DISCOVERED:** Fossil embryos are known from at least eight genera of dinosaurs, including all three major dinosaur groups: theropods, sauropods and ornithopods. These have yielded a trove of information about dinosaur relationships and development.

**HOW DID THEY BREATHE?** Incredibly, the eggshells of *Massospondylus* are only about 0.1 mm thick, which is very thin for eggs that size. This indicates that the mother probably buried the eggs, either to hide them from predators or to allow them to be warmed by an external source, but not incubated by her. Her weight would have crushed the thin shells. Buried eggs need thin shells because thicker eggshells make it difficult for the embryo to expel carbon dioxide and obtain fresh oxygen through the tiny gas-exchange pores. Lastly, the *Massospondylus* eggs are always found in tight rows, which indicates that the mother spent some time to arrange them. This arrangement may allow us to call this a nest. We'll see.

**MORE CLUES:** But, while we are on the subject of gas-exchange pores, or pore canals, scientists have found that dinosaur eggs have a wide variety of pore sizes, shapes, and densities (pores per square centimeter). Taken together, these factors can tell paleontologists whether the eggs were (a) buried under dirt, sand or vegetation (large pores); (b) exposed on the surface (small pores); (c) incubated in a desert (small pores prevent excess evaporation); or (d) in a humid environment (larger pores are okay).

**THE BIRD CONNECTION:** In 1924, the famous dinosaur hunter and author, Roy Chapman Andrews, led an expedition to Mongolia to search for early human remains, but found none. What one of his technicians, George Olsen, did discover was the fossil of a complete dinosaur slightly above a nest full of unhatched eggs. The conclusion was that the small, two-legged meat-eater had been killed by a sandstorm while it was preying on the eggs of a *Protoceratops*. (This has nothing to do with the story, but the skeleton of a lizard was found in its stomach area.) It was later named *Oviraptor philoceratops* (egg-thief, lover of ceratopsians), but they were wrong. Those were the little dinosaur's own eggs. We now know that she died on her nest because her protective instinct kept her there during the sandstorm. I have seen the little hero and her nest on display in the American Museum of Natural History in Manhattan, where the plaque tells more of her story. *Oviraptor's* skeleton is the most bird-like of all the dinosaurs. Her ribs, for instance, are constructed like those of birds. Her skin covering is not preserved, but those of three closely related species, *Nomingia*, *Caudipteryx*, and *Citipati*, are all covered with feathers, and they all have a *pygostyle*—the knobby tail with fused vertebrae that supports tail feathers. Those dinosaurs also have distinct wing and tail feathers that were probably used for display, not flight. We know that theropod dinosaurs were active hunters and almost certainly warm-blooded, like their descendants, the birds, so this information adds more weight to the dinosaur/bird connection. Returning to *Oviraptor's* unusual death, we also know that many species of modern birds, including our own broad-tailed hummingbird, will remain on their nests until they die, rather than abandon their eggs during extreme cold and storms.

**MORE DINOSAUR NESTS:** Other egg-laying sites show that different dinosaur species arranged their eggs in circles, double-ringed circles, and other shapes. Since it is accepted that at least some dinosaurs were warm blooded, it appears likely that the circular arrangements were used to share Mom's body warmth equally—in other words, for incubation. Other sites point to the likelihood that the heat for incubation originated in other ways, including solar heating or heat generated by the decay of vegetable matter.

**CARE OF YOUNG?** The incubation theory received very strong support with the 1978 discovery of the first fossils of the genus *Maiasaura* in Montana. These are large (9 meters or 30 feet long) “duck-billed” dinosaurs. They were discovered alongside nests that contained unhatched eggs and juveniles that were too large to have recently hatched. Along with this, paleontologists found puzzling wads of vegetable matter around the nests that turned out to be chewed plants that adults had brought back to feed the juveniles. Later, skeletal studies showed that newly-hatched juveniles were incapable of walking and that their teeth were poorly developed. They needed to be fed at the nest, like many modern birds. The commonly accepted conclusion is that the *Maiasaura* eggs were laid asynchronously (over a period of time) and therefore hatched asynchronously. This required the adult to feed the hatchlings while the remaining eggs continued to hatch. Obviously, the youngsters remained near the nest for a period of time. Tracks show that *Maiasaura* traveled in large herds, probably for mutual protection. They also nested colonially, with nests of 30 to 40 eggs spaced about 7 meters (23 feet) apart. The ostrich-sized eggs were arranged in a circle or spiral, and they were heated by decomposing vegetation that an adult had placed over them. This vegetation is also preserved as a fossil. **NOTE:** Many modern reptiles and some primitive bird species incubate their eggs with the heat from rotting vegetation.

**EGG SHAPE SAYS A LOT:** Sauropod dinosaurs are those huge, long-necked species, like the one we see painted in green at Sinclair gasoline stations. Ornithopods are more compact, and there is a horned one on display in front of the Rocky Mountain Dinosaur Resource Center in Woodland Park. These dinosaurs tended to lay nearly round eggs, and some sauropod species produced eggs that were nearly two feet across. Although that sounds enormous to us, the dinosaur that laid those eggs weighed nearly 100 tons, so each egg was only a fraction of a percent of her weight. The third major clade, or branch, of dinosaurs is the meat-eating theropods, which includes the famous *Tyrannosaurus rex*. They tended to lay long, oval-shaped eggs that could be up to three times as long as they are wide. Scientists are unsure why those eggs were nearly cigar-shaped, but it might have been due to the fact that all theropod dinosaurs were bipedal (walked on two legs) and had a narrow pelvis.

**HINTS AT RELATIONSHIPS:** All dinosaur eggshells are composed of one or two layers, but many theropod eggshells have an additional third layer on the outside. The shells of most bird eggs also have an identical third layer. This supports the growing evidence from DNA, skeletal comparisons, tissue proteins, discoveries of feathered dinosaur fossils, and other studies that birds are descended from theropod dinosaurs.

**WHAT ABOUT OTHER EGGS?** Obviously, dinosaurs were not the only animals that laid eggs. Scientists have found fossil fish eggs (extremely rare), bird eggs, turtle eggs and more. The largest bird eggs were produced by a non-flying monster called *Vorombe titan*, one of the “elephant birds.” This behemoth could have weighed as much as 700 kg (1,500 pounds) and it lived on the island of Madagascar before it was wiped out by humans less than 500 years ago. (The Italian traveler Marco Polo wrote about them in the 13<sup>th</sup> century, when they were probably



still living.) Several have been found buried in sand dunes, where the elephant birds may have buried them for incubation. Others have been discovered in caves, where it is thought humans carried them and ate them. When possible, each egg's fragments have been carefully glued back together and a few eggs are on display in museums. It has been calculated that a fresh elephant-bird egg would weigh about 10 kg (22 lbs). The famous naturalist David Attenborough is the proud owner of one, which will go to the British Museum upon his death.

**LOCAL NOTE:** You can find scattered dinosaur eggshell fragments on the surface of the ground in an area to the west of lower Shelf Road. The fragments come from the Jurassic-age Morrison Formation and they are about 156 – 147 million years old. Some of the eggshells are thought to come from pterosaur (flying reptile) eggs. In other areas of the American West, paleontologists have discovered *Camptosaurus* nests, with nearly mature embryos still inside! But beware, it is a federal crime to collect vertebrate fossils on federal lands. Take photos!

\* \* Here is the hyperlink to a recent article from *Science News* about the first and only fossil bird egg to be found still inside the mother, a 110-million-year-old sparrow-sized species. The original paper appeared in the March 20 issue of *Nature Communications*. (Thanks to the ever-vigilant Bob Carnein for tipping me off to this very interesting article!):

<https://mail.google.com/mail/u/0/#inbox/FMfcgxwBWKcKRccLzNZqLVKpNbJRhhW>

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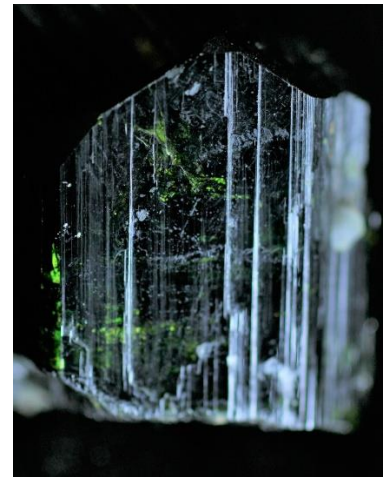
## Monthly Mineral Quiz:

### **Last Month's Mineral: Chrysocolla**



Chrysocolla [ $\sim\text{Cu}_4\text{H}_4\text{Si}_4\text{O}_{10}(\text{OH})_8$ ] is a common mineral found in oxidized (weathered) copper deposits, with chalcopyrite, azurite, malachite, and cuprite, as well as iron oxides and many other minerals. You will find it at many localities in Colorado. Though it resembles turquoise, it's softer ( $H=2$  to  $4$ ) and so isn't very suitable for jewelry (though it's often coated with plastics to increase its durability.) An easy way to identify chrysocolla is to dry your tongue and touch the tip to the mineral. If you have chrysocolla, you will feel your tongue adhere slightly to the specimen. Now, wash your mouth out!!

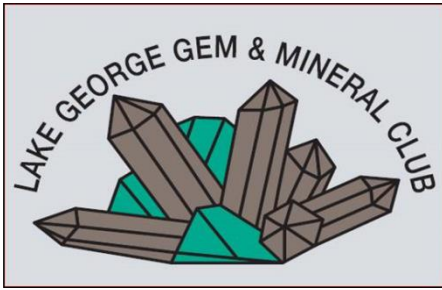
### **This Month's Mineral**



**Left to right: 5 cm long; 6 cm across; 2 cm long; Carnein collection and photos.**

This month's mineral is very common at many localities in Colorado (the left and center photos above) and elsewhere (the specimen on the right came from Alaska). It's almost always some shade of green, though large, thick crystals may look black. Crystals are monoclinic and striated, commonly with "wedge" shaped terminations. Hardness is 6 to 7, but the mineral is very brittle and may seem softer. Specific gravity is higher than average (about 3.4), but it commonly occurs as vein coatings, so its density may not be obvious. It commonly occurs in altered or metamorphic rocks, often with grossular or andradite garnet, calcite, vesuvianite, quartz, and many other associates. What is it?

Reference: C. Klein and C.S. Hurlbut, Jr., 1993, *Manual of Mineralogy (After James D. Dana), Twenty-First Edition, Revised*: New York, John Wiley & Sons.



**The Lake George Gem and Mineral Club** is a group of people interested in rocks and minerals, fossils, geography and history of the Pikes Peak/South Park area, Indian artifacts, and the great outdoors. The Club's informational programs and field trips provide opportunities to learn about Earth science, rocks and minerals, lapidary work and jewelry making, and to share information and experiences with other members. Guests are welcome to attend, to see what we are about!

The Club is geared primarily to amateur collectors and artisans, with programs of interest both to beginners and serious amateurs. The Club meets on the second Saturday of each month at the Lake George Community Center, located on the north side of US Highway 24 on the east edge of town, sharing a building with the county highway shops. **In the winter, we meet at 10:00AM. From April through October, we meet at 9:00AM, to allow more time for our field trips.**

Our organization is incorporated under Colorado law as a nonprofit educational organization, and is a member of the Colorado, Rocky Mountain, and American Federations of Mineralogical Societies. We also sponsor an annual Gem and Mineral Show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems, or jewelry. Annual membership dues (Jan. 1 through Dec. 31) are \$15.00 for an individual (18 and over), and \$25.00 for a family (parents plus dependents under age 18).

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